REMARKS

The present amendment is prepared in accordance with the new revised requirements of 37 C.F.R. § 1.121. A complete listing of all the claims in the application is shown above showing the status of each claim. For current amendments, inserted material is underlined and deleted material has a line therethrough.

The indication of allowable subject matter with respect to claim 13 is acknowledged with appreciation. It is believed that the amendments made above in light of the remarks below place the remaining claims in condition for allowance.

Rejections under 35 U.S.C. § 103(a)

Claims 1-3, 9-11, 19 and 20 were rejected under 35 U.S.C. § 103(a) in view of Frolov, et al. (an LED illuminated exit device), Brown (fluorescent tube illuminated emergency exit sign) and Logan (combination electroluminescent and phosphorescent illuminated emergency exit sign). Claims 4-7 were rejected in view of the above and further in view of Tietze, et al. (electroluminescent or organic light emitting diode illuminated vehicle license plate frame)

The rejections of claims 8 and 12 added D'Onofrio et al. (method of making a planar electroluminescent illuminator) to the cited references, while the rejection of claims 14-18 includes one or more of the above references and adds Kinstler (electroluminescent illuminated vehicle sign with DC to AC inverter for powering the sign from the vehicle's low voltage electrical system).

The applicants have amended claim 1 (and all remaining claims which are all dependents thereon) to emphasize the significant differences between an "exit device" and the other electroluminescent illuminated items found in the cited references.

All of the rejections above are based on Frolov. Frolov teaches an exit device having an integrated exit sign illuminated by light emitting diodes. With the exception of Frolov's disclosure, and the present invention, the art is singularly devoid of illuminated exit devices, despite decades of art relating to exit signs and door hardware for fire exit doors.

There are many reasons why the art did not show such illuminated exit devices prior to Frolov and the present invention, but several of these reasons, as discussed below, are worthy of consideration when the Examiner attempts to determine what would be obvious to the skilled man in this field who can be presumed to be aware of Frolov and the other cited references.

The first is the problem of heat produced by conventional exit sign lighting methods. An exit device is unlike the other devices cited (exit signs and signage) in that the device must be physically touched, often in an emergency fire situation, by all members of the public at large, from children to adults. Not only must the exit device be sufficiently cool that it can be safely operated without burning the public, it must also be kept sufficiently cool that anyone testing the exit door for warmth will not think that there is a fire on the far side of the door.

Conventional 120 volt AC operated incandescent lighting, of the type often used in prior art illuminated exit signs, cannot meet this need. Frolov has solved

this problem by using LED's, which like the applicants' use of an electroluminescent material, produces substantially no heat.

A second problem is shock hazard and non-hazardous shocks in the context of a safety device used during an emergency. The illumination of prior art exit signs was powered by a relatively higher voltage, typically 120 or 240 volt AC power, both of which provide some shock hazard. It is acceptable to use this form of power for an exit sign that is mounted high over the exit door and well above reach of the public. This form of higher voltage AC power, with its associated shock hazard, is not suitable for an exit device with multiple moving parts, which must be mounted on a moving door, and which must be repeatedly operated by directly touching the device over many years.

Even where a shock is non-hazardous, if the exit device were to provide any form of shock when it was operated, it would interfere with the safety function of the device.

Frolov addresses this issue by using only a low voltage illuminator – specifically multiple LEDs, which typically operate at battery voltages of no more than a few volts. Accordingly, Frolov teaches away from the use of an illuminator powered by "high voltage AC power" according to amended claim 1, such as the electroluminescent illuminator of the present invention, which typically requires 400 volts AC.

More specifically, one of skill in the art would not learn from Frolov that a high voltage AC powered electroluminescent illuminator can be used in an exit device. He would learn from the art that only low voltage devices such as LED's

address this issue that prevented prior art incandescent bulb illumination powered from the AC line voltage.

The hypothetical skilled man would also fail to find any suggestion to use a high voltage electroluminescent illuminator in the other cited art (exit signs, automobile license plates and advertising signs on vehicles) because of the significant difference in those applications and the exit device application. The other signs and devices are not intended to be repeatedly touched by the public to operate an emergency exit door.

As amended claim 1 specifies, the planar electroluminescent illuminator of the present invention is operated by "high voltage AC power," yet the public is protected by 1) operating the illuminator with an "inverter" powered by a "source of low voltage electrical power, the low voltage being sufficiently low ... to not present a shock hazard" and 2) by electrically insulating the illuminator from the mounting on the exit device such that "the electrically insulated mounting of the electroluminescent illuminator [is] sufficient for the high voltage AC power ... to not present a shock hazard." The low voltage allows a low voltage connection where the power must cross moving interfaces, such as between the door and the wall, which are susceptible to constant flexing.

Although Kinstler discloses the use of an inverter to power an electroluminescent illuminator from a low voltage power source, the Kinstler application (vehicle mounted sign) is one in which the only source of power is low voltage, and the sign is not intended for direct mounting to a door handle such as in the present exit device where the public will be contacting the sign through contact with the handle on a regular basis.

Yet another difference between the present invention and the prior art lies in the requirement for a thin "planar" illumination that is uniform over the signage and thin enough to fit between the surface of the exit device where the sign is displayed and the mechanical portion of the exit device below which must function to open the fire door.

Although Frolov teaches an illuminator design that will fit within this limited space (point light LEDs mounted in an array on a printed circuit board), his design has several problems. First, the point light LEDs are not "planar" as discussed in the previous action. A planar illuminator clearly requires illumination emitted from a plane, not merely an array of point source LEDs. Thus the Frolov design is not a planar illuminator and does not provide the desired planar illumination.

Second, Frolov's LEDs, even if the Examiner considers them to be a planar illuminator, are clearly not an "electroluminescent illuminator" and are clearly not as thin as the "electroluminescent illuminator" of the present design. This thinner illuminator design allows better use of the space behind the illuminator.

Third, Frolov's design is more costly than an "electroluminescent illuminator." Frolov must purchase multiple independent LEDs and pay labor costs to mount them and solder them, etc. The result is a more expensive design that takes more space and produces inferior non-uniform illumination.

Claims 14 and 15 have been canceled as being redundant and the claims dependent thereon have had their dependencies changed to claim 1. The scope of previous claim 13 has been rewritten into independent form and added as new claim 21. The language of claim 1 previously introduced to better clarify that the

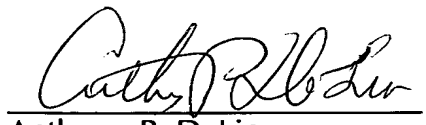
claimed "planar electroluminescent illuminator" of the present invention is not the same as the multiple point source LED illuminators of Frolov has been canceled as being unnecessary and unduly redundant in light of the argument above.

Finally, claim 1 specifies "transparent protective cover mounted in front of the sign." Although the Examiner has cited Brown for the proposition that it was known to provide a transparent cover in front of an electroluminescent sign, Brown is inapposite for several reasons. First, Brown et al., discloses an exit sign that is intended to be mounted well above the reach of the public, e.g., high above a door. It is not intended to be constantly touched by the public as will happen with an exit device which is intended to be mounted at handle level on a door in a public area. Brown does not need or suggest this "protective" function for a "transparent protective cover" to minimize wear or damage to the illuminator uses in a high wear environment.

Second, the "transparent protective cover" of the present invention provides yet another "protective" function by separating the public from the "high voltage AC." That voltage is directly connected to power the electroluminescent illuminator of the present invention. As set forth in claim 8, the electroluminescent illuminator is preferably "double insulated" by a separate plastic encasing which provides the second layer. The first layer is provided by the combination of the electrically insulating plastic of the touchpad (claim 6) with the "transparent protective cover" of claim 1 which together act to provide the layer of electrical insulation and protective functionality.

It is respectfully submitted that the application has now been brought into a condition where allowance of the case is proper. Reconsideration and issuance of a Notice of Allowance are respectfully solicited.

Respectfully submitted,

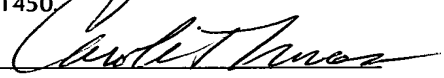


Anthony P. DeLio
Reg. No. 18,729

DeLIO & PETERSON, LLC
121 Whitney Avenue
New Haven, CT 06510-1241
(203) 787-0595

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date indicated below as first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 2231301450.

Name: Carol M. Thomas Date: March 22, 2006 Signature: 

sar100062000amdC